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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,468	10/31/2003	Karen J. Smiley		2775
23361	7590	08/09/2007		
ABB INC.			EXAMINER	
LEGAL DEPARTMENT-4U6			PARDO, THUY N	
29801 EUCLID AVENUE				
WICKLIFFE, OH 44092			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/699,468	SMILEY ET AL.
Examiner	Art Unit	
Thuy N. Pardo	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 25 May 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-8,10-18,38 and 40-44 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-8,10-18,38 and 40-43 is/are rejected.

7)  Claim(s) 44 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. \_\_\_\_\_  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_ 5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

1. Applicant's Amendment file on May 22, 2007 in response to Examiner's Office Action has been reviewed. Claims 1-8, 10-18, 38 and 40-44 are pending in the application. Claims 9, 19-37 and 39 are canceled, claims 1, 38 and 40 are amended. This Office Action is Final.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 10-18, 38 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Apfelbaum et al. (Hereinafter "Apfelbaum") WO 00/072145 and further in view of Geromel et al., (Hereinafter "Geromel") in "The Application of Intelligent Systems in Power Transformer Design", IEEE 2002.

As to claim 1, Apfelbaum teaches the invention substantially as claimed, comprising: comparing the data representing test results to predetermined criteria for the test results to determine whether the test results satisfy the predetermined criteria [comparing the determined paths through the model and the requirement expressions, see the abstract; page 6, lines 14-25; page 12, lines 10-24];

abnormal or unexpected condition occurs, lines 12-15 on page 13; page 11, lines 12-22]; and

generating an indication that the transformer design needs further analysis if at least a predetermined quantity of the test results do not satisfy the predetermined criteria [generating a report based on the evaluation whether the determined paths through the model satisfy the requirement expressions, see the abstract; page 12, lines 10-24].

Apfelbaum does not explicitly teach using test results from a plurality of transformers, counting the number of the test results that do not satisfy the predetermined criteria and displaying the indication on a display device although it has the same functionality of analyzing whether the model (or a transformer design) satisfies the requirement expression and generating a report based on the evaluating [see page 7, lines 21-29].

Geromel teaches teach using test results from a plurality of transformers [all the transformers were tested and the measurement results are used, ab; lines 5-8 of col. 1 on page 288; counting the number of the test results that do not satisfy the predetermined criteria [estimated supplemental losses are available in the output, col. 1 on pages 289, and using information available in the database of testing transformers [fig. 2, 4 of page 288 and 4.2 of page 289] and displaying the indication to the user [1.1-1.5 of pages 287-290].

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to add the feature of Geromel to the system of Apfelbaum as an essential means to measure how the design of the transformers affect the testing performance.

As to claims 38 and 40, all limitations of these claims have been addressed in the analysis above, and these claims are rejected on that basis.

As to claim 2, Apfelbaum teaches the invention substantially as claimed. Apfelbaum further teaches storing the data representing test results in the database [page 20, lines 10-23; page 17, lines 1-27].

As to claim 3, Apfelbaum and Geromel teach the invention substantially as claimed. Apfelbaum further teaches storing the data representing test results in a plurality of tables in the database, each of the plurality of tables having the data representing test results for one particular type of test stored therein [page 17, lines 6-16].

As to claim 4, Apfelbaum and Geromel teach the invention substantially as claimed. Apfelbaum further teaches storing identifying data in the data base, the identifying data identifying at least one of a serial number, a design, and a design version of a particular one of the plurality of transformers from which a corresponding one of the data representing test results is obtained [page 17, lines 1-27; page 20, lines 10-23].

As to claim 5, Apfelbaum and Geromel teach the invention substantially as claimed. Apfelbaum further teaches that the predetermined criteria for the test results are stored in the database [inherent in the system, page 17, lines 17-27].

As to claim 6, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches at least one of a minimum, a maximum, a range, and a set of discrete values [page 18, lines 8 to col. 20, lines 7].

As to claim 7, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches the test results are results of acceptance testing [ab; 260-264 of fig. 13].

As to claim 10, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches determining whether the data representing test results is at least one of: (i) greater than the minimum; (ii) less than the maximum; (iii) within the range; and (iv) substantially equal to at least one of the predetermined discrete values [targets totaled 75%, page 19, lines 26-29].

As to claim 11, Apfelbaum and Geromel teach the invention substantially as claimed.

Geromel further teaches that the test results are the results of at least one of the following tests: load loss; no-load loss; impedance; transformation ratio; turn to turn faults; high potential; double induced; impulse; heat run; sound level; short circuit; and tank pressure [fig. 2-8 of pages 188-190].

As to claim 12, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches sending the indication to a computing device [col. 11, lines 12-22].

As to claim 13, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches defining the database [page 17, lines 17-24].

As to claim 14, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches selecting the type of the test results included in the database [page 7, lines 4-15; page 20, lines 2-7].

As to claim 15, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches selecting the predetermined criteria [page 11, lines 12-13].

As to claim 16 Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches the predetermined quantity of the test results is a predetermined numerical total [col. 11, lines 12-22].

As to claim 17, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches that the predetermined quantity of the test results is a predetermined percentage of the test results [page 15, lines 22 to page 16, lines 5; pages 18-19; 264 of fig. 13].

As to claim 18, Apfelbaum and Geromel teach the invention substantially as claimed.

Apfelbaum further teaches selecting the predetermined criteria from the database based on at

least one of one of the transformer design and a version of the transformer design [page 1, lines 19-25].

As to claims 8, 38 and 40-43, all limitations of these claims have been addressed in the analysis above, and these claims are rejected on that basis.

***Allowable Subject Matter***

3. Claim 44 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 44, the feature of determining that the certain transformer design overperforms if the retrieved test results consistently exceeded the retrieved criteria and modifying the certain design to reduce the cost of components required by the transformer design, taken together with other limitations of claim 40 was not disclosed by the prior art of record.

***Response to Arguments***

1. Applicant's arguments filed on May 25, 2007 have been fully considered but they are not persuasive.

Applicant argues that the cited prior art fails to show or suggest using test results from a plurality of transformers.

Examiner respectfully disagrees. Examiner believes that the recitation of using test results from a plurality of transformers has not been given patentable weight because the recitation

occurs in the preamble in the independent claim 1. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Furthermore, Examiner also believes that Geromel teaches this feature. Gromel teaches that the test results of several hundred of actual power transformers are used for validation of the method [see the abstract; , lines 5-8 of col. 1 on page 288].

Applicant argues that the cited prior art does not teach counting the number of test which are not satisfied the predetermined or retrieved criteria.

Examiner respectfully disagrees. Examiner believes that both Apfelbaum and Geromel teach this feature. Apfelbaum teaches whether the model (or a transformer design) satisfies the requirement expression and generating a report based on the evaluating [see page 7, lines 21-29], and Geromel teaches estimating supplemental losses available in the output, col. 1 on pages 289, and using information available in the database of testing transformers [fig. 2, 4 of page 288 and 4.2 of page 289] and displaying the indication to the user [1.1-1.5 of pages 287-290].

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy Pardo whose telephone number is 571-272-4082. The examiner can normally be reached on Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 04, 2007



THUY PARDO  
PRIMARY EXAMINER